

2002 Annual Compliance Report Gunnison, Colorado, Disposal Site

Compliance Summary

The site, inspected on August 8, 2002, was in excellent condition. Monitoring of riprap durability at key locations around the base of the disposal cell continued. Rock in each test area was in excellent condition and identification markers were installed at each test area. A small patch of Canada thistle, a state-listed noxious weed, was present at one of the decommissioned well sites and was treated with herbicide. Because of this year's severe drought, reseeded areas along the former Chance Gulch and Tenderfoot Mountain haul roads have not yet successfully revegetated. A missing perimeter sign will be replaced and the entrance sign will be relabeled. No cause for a follow-up or contingency inspection was identified.

Compliance Requirements

Requirements for the long-term surveillance and maintenance of the Gunnison, Colorado, Uranium Mill Tailings Radiation Control Act (UMTRCA) Title I disposal site are specified in the *Long-Term Surveillance Plan for the Gunnison, Colorado, Disposal Site* (DOE/AL/62350-222, Rev. 2, U.S. Department of Energy [DOE], Albuquerque Operations Office, April 1997) and in procedures established by the DOE Grand Junction Office to comply with requirements of Title 10 *Code of Federal Regulations* Part 40.27 (10 CFR 40.27). These requirements are listed in Table 8-1.

Table 8-1. License Requirements for the Gunnison, Colorado, Disposal Site

Requirement	Long-Term Surveillance Plan	This Report
Annual Inspection and Report	Section 3.1	Section 1.0
Follow-up or Contingency Inspections	Section 3.5	Section 2.0
Routine Maintenance and Repairs	Section 5.0	Section 3.0
Ground Water Monitoring	Section 4.1	Section 4.0
Corrective Action	Section 6.0	Section 5.0

Compliance Review

1.0 Annual Inspection and Report

The site, southeast of Gunnison, Colorado, was inspected on August 8, 2002. Results of the inspection are described below. Features and photograph locations (PLs) mentioned in this report are shown on Figure 8-1. Numbers in the left margin of this report refer to items summarized in the Executive Summary table.

1.1 Specific Site Surveillance Features

Access Road, Entrance Gate, Signs, and Fence—The road to the site is an all-weather gravel road maintained by the U.S. Bureau of Land Management and was in good condition. The south entrance gate is a simple barbed wire gate in the stock fence that surrounds the site. The gate, secured by a padlock and chain to the adjoining post, was in good condition.

8A The entrance sign, just east of the entrance gate, was in good condition; however, it identifies the DOE Albuquerque, New Mexico, Operations Office as the responsible agency. The sign will be updated to indicate the Grand Junction Office as the responsible agency. Perimeter sign P1 was missing and will be replaced. Perimeter sign P37 was bent and has cracked paint, but was still legible. The entrance sign and perimeter signs P38, P39, P42, and P44 have bullet holes in them, but all were still legible. The other perimeter signs were in good condition.

A 3-strand barbed wire fence delineates the site perimeter. Two barbed wire gates—one on the north fence line, the other on the east fence line—provide monitor well access. The fence and gates were in excellent condition.

Site Markers, Survey Monuments, and Boundary Monuments—Both granite site markers, SMK-1 just inside the south entrance gate and SMK-2 on the top of the disposal cell, were in excellent condition. The three combination survey/boundary monuments and the eight boundary monuments were in excellent condition.

Monitor Wells—The ground water monitoring network at the Gunnison disposal site consists of 16 wells. All monitor wells were secure and in excellent condition.

8B Fourteen other monitor wells were decommissioned and their locations were reclaimed during 2001. All but one of the former well sites were in good condition. Newly germinated Canada thistle plants—a state-listed noxious weed—were observed at a former well site located near perimeter sign P42. Herbicide was applied at this location during September 2002 to prevent the spread of this plant.

1.2 Transects

To ensure a thorough and efficient inspection, the site was divided into four areas referred to as transects: (1) the riprap-covered disposal cell; (2) the riprap-covered side slopes, apron, and diversion ditches; (3) the area between the disposal cell and the site boundary; and (4) the outlying area.

Top of Disposal Cell—The top of the disposal cell was in excellent condition. There was no evidence of erosion, settling, or slumping. A few isolated patches of grass were observed on the disposal cell cover; however, these plants do not present a hazard or cause for concern at this time (PL-1).

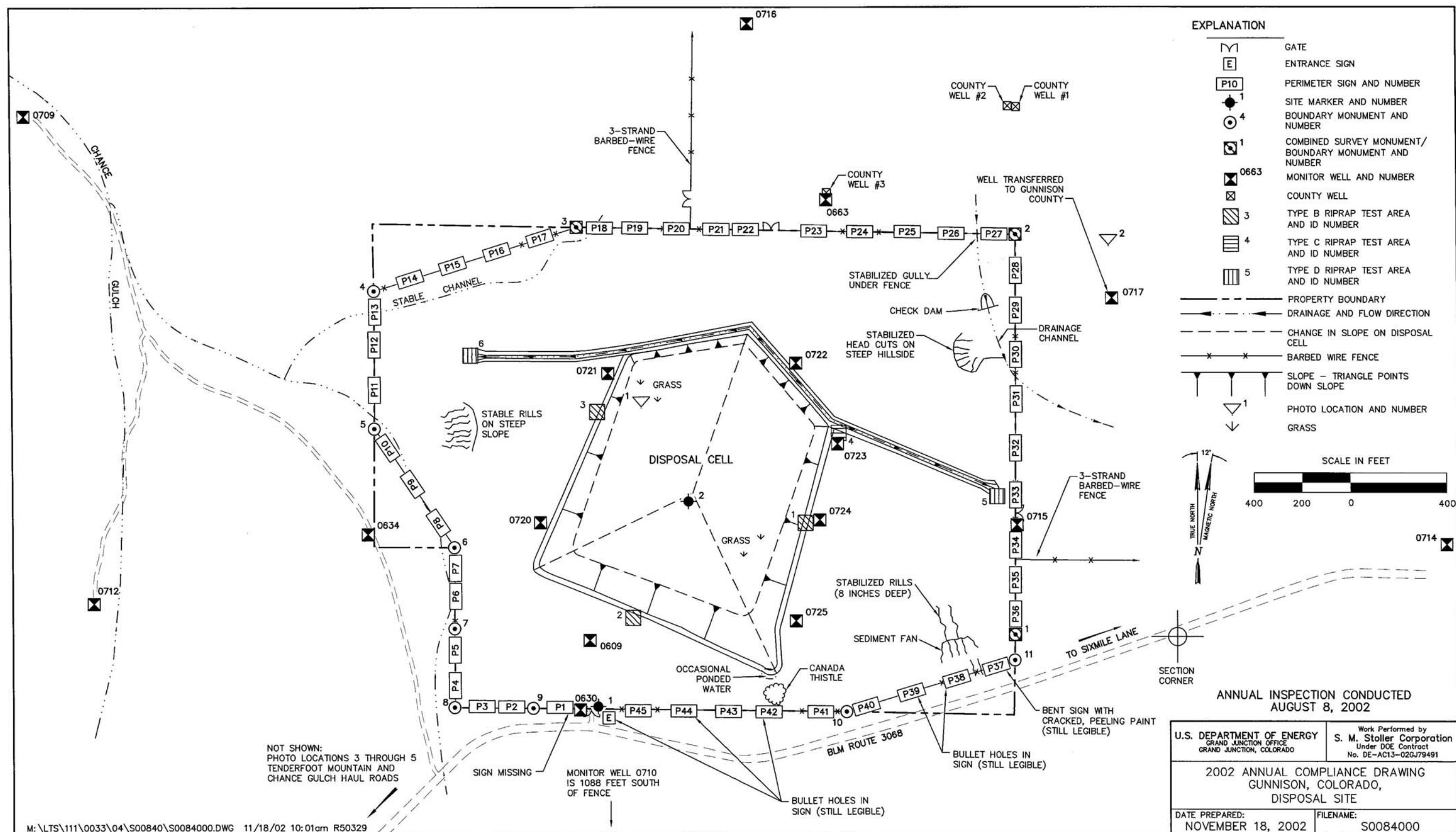


Figure 8-1. 2002 Annual Compliance Drawing for the Gunnison, Colorado, Disposal Site

Side Slopes, Apron, and Diversion Ditches—The riprap-covered side slopes, apron, and diversion ditches were in excellent condition. No evidence of slumping, settling, or significant encroachment of vegetation was observed.

At the southeast corner of the cell apron, water draining from the cell occasionally ponds in a low-lying area along the edge of the riprap. The riparian-type vegetation that has established indicates this area retains moisture much of the time. Water collection in this area does not pose a problem as the cell is designed to drain to the southeast, and any water that ponds is below the elevation of the tailings. At the time of the inspection, this area was dry.

8C The Long-Term Surveillance Plan requires annual inspections of the condition of the riprap in six test areas for the first 5 years after cell closure (through 2002), and every fifth year thereafter until the twentieth year (2017). Each 1-square-meter test area is in a critical flow path location in the diversion channels. The final annual inspection, conducted in 2002, indicated no observable rock degradation when rock-by-rock comparisons were made with previous inspection photographs. A durable marker consisting of a rebar covered with a white plastic pipe was installed on the northeast corner of each test area during the 2002 inspection. These markers will assist in locating and determining the correct orientation of the test areas when they are photographed at 5-year intervals beginning in 2007.

Area Between the Disposal Cell and the Site Boundary—Both seeded and undisturbed (natural) areas occur between the disposal cell and the site perimeter. During surface remediation, areas were disturbed by construction activities, regraded, and then reclaimed by planting a seed mix. Undisturbed areas were left in their natural state. At the time of the 2002 inspection, the seeded areas were in excellent condition.

During the 2002 inspection, four areas of the site containing erosional features were investigated: rills in the southeast north of perimeter sign P38; gullied areas in the northeast; a drainage channel in the northwest; and rills on a steep west-facing slope on the west side.

In the southeast corner, several rills have formed in the steeper portion of the slope, and a delta-like accumulation of eroded sediments has formed just below the gullies. Each of these erosional features was inspected and found to be in stable condition. Vegetation is becoming established on the steeper portions of the eroded slopes, and sediment transport and accumulation from these areas is not expected.

In the northeast, a series of deep gullies and headcuts formed at a natural slope break in the terrain. These gullies appeared to be stabilizing with the successful establishment of sagebrush and various grasses. The drainage channel crossing the northeast corner of the site was stable.

In the northwest, a drainage channel tributary to Chance Gulch was investigated. The channel was stable and in good condition.

On the west, the steep west-facing slope contains numerous rills. Surface rock fragments are stabilizing the slope.

The steep topography of these areas makes them susceptible to erosion. Site investigators will continue to monitor for signs of increased erosion or any other indications of slope instability.

Outlying Area—Gunnison County owns a municipal landfill adjoining the disposal site boundary on the north and east. In 2001, the county installed several fences and three monitor wells in these areas. A gate was installed in the new fence east of the disposal site, approximately 0.25 mile from the eastern property line. Because DOE requires access through this gate for environmental monitoring and annual inspection purposes, the landfill foreman has agreed to secure the gate with a DOE padlock.

At the time of the inspection, no active land filling operations had occurred within 0.25 mile of the disposal site. The nearest active portion of the landfill is located approximately 0.75 mile northeast of the disposal site. An appliance disposal area opened in 2001, but it poses no threat to the DOE disposal site (PL-2). No other evidence of activity was noted near the site boundary.

Inspectors assessed revegetation success at several sites along the former Chance Gulch and Tenderfoot Mountain haul roads. The former Chance Gulch haul road is approximately 0.25 mile west of the disposal cell, and the former Tenderfoot Mountain haul road extends from the disposal cell westward to the former processing site. A U.S. Bureau of Land Management right-of-way permit requires successful revegetation of both haul roads. Several areas along the haul roads were reseeded in October 2000 to meet U.S. Bureau of Land Management's vegetation success criteria for species diversity. Vegetative cover in the reseeded areas was sparse and composed primarily of two annual weeds, Russian thistle and kochia (PL-3 through PL-5). Because the Gunnison area experienced severe drought conditions during 2002, the reseeded areas had not improved since the last inspection. The success of reestablishing vegetation in these areas will continue to be monitored.

2.0 Follow-up or Contingency Inspections

No follow-up or contingency inspections were required in 2002.

3.0 Routine Maintenance and Repairs

No maintenance other than weed control was required in 2002.

4.0 Ground Water Monitoring

DOE monitors ground water at the Gunnison disposal site to demonstrate compliance with U.S. Environmental Protection Agency ground water protection standards in 40 CFR 192, and to demonstrate that the disposal cell is performing as designed. The monitoring network consists of 16 wells, including six point of compliance wells to determine cell performance, two background wells, and eight wells for water level measurements (Table 8-2). Ground water has been sampled on an annual basis from 1998 through 2001, and will be sampled once every 5 years thereafter. No ground water sampling was required in 2002; the next sampling event is scheduled for 2006. The indicator analyte for cell performance is uranium. Analytical results over the past 5 years have been consistent, with concentrations of uranium at or below background levels, indicating that the disposal cell is performing as designed.

Table 8–2. Active Monitor Wells at Gunnison, Colorado, Disposal Site

Compliance and Background Wells	Water Level Wells
MW–0720, compliance	MW–0630, water level
MW–0721, compliance	MW–0634, water level
MW–0722, compliance	MW–0663, water level
MW–0723, compliance	MW–0709, water level
MW–0724, compliance	MW–0710, water level
MW–0725, compliance	MW–0712, water level
MW–0609, background	MW–0714, water level
MW–0716, background	MW–0715, water level

5.0 Corrective Action

Corrective action is action taken to correct out-of-compliance or hazardous conditions that create a potential health and safety problem or that may affect the integrity of the disposal cell or compliance with 40 CFR 192.

No corrective action was required in 2002.

6.0 Photographs

Table 8–3. Photographs Taken at the Gunnison, Colorado, Disposal Site

Photograph Location Number	Azimuth	Description of Photograph
PL–1	20	Patch of grass on top of cell.
PL–2	60	View of appliance scrap/disposal area at Gunnison County landfill.
PL–3	180	Chance Gulch reseeded area; looking south at second patch from road.
PL–4	0	Tenderfoot Mountain haul road; looking north at Reseed Area 3.
PL–5	0	Tenderfoot Mountain haul road; looking north at Reseed Area 2.



PL-1. Patch of grass on top of cell.



PL-2. View of appliance scrap/disposal area at Gunnison County landfill.



PL-3. Chance Gulch reseeded area; looking south at second patch from road.



PL-4. Tenderfoot Mountain haul road; looking north at Reseed Area 3.



PL-5. Tenderfoot Mountain haul road; looking north at Reseed Area 2.

End of current section